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ABSTRACT

The purpose of a research study was to develop a model for recruitment, retention, and placement of female students in secondary vocational education programs which have traditionally been for males. Ten specific secondary vocational education programs were selected which had successfully recruited, retained, and placed female students in nontraditional programs of study. (Five were trade and industrial and five were vocational agriculture programs.) On-site interviews were conducted with target groups representing all persons integral in female student recruitment, retention, and placement: students, teachers, parents, employers, administrators, and counselors. Conclusions based on interview responses included (1) retention is improved when two or more nontraditional students are enrolled in a vocational program: (2) teacher attitude is critical to class acceptance of students in nontraditional programs: (3) prior experience in the field is a contributing factor to female enrollment: (4) role models are a significant factor in the success of female students in nontraditional programs: (5) audio-visual instructional, and orientation materials that include representations of females are useful in female recruitment, retention, and placement in nontraditional programs: and (6) support sessions give visibility to nontraditional students. (Interview formats and site descriptions are appended.) (YLB)

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Developing a Model for Recruitment, Retention, and Placement of Female Students in Secondary Vocational Education Programs Which Have Traditionally Been for Males

Submitted to

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The Ohio State Department of Education

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The Ohio State University

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CHAPTER I

THE PROBLEM AND ITS SETTING

Need and Impact of the Study

Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education. Title II of the Education Amendments of 1976 requires that sex discrimination, sex bias, and sex stereotyping be eliminated from all vocational education programs. Each state is further required to set forth policies and procedures that will assure equal access to vocational education programs by both women and men, including incentives to encourage the enrollment of both women and men in the non-traditional programs of study (Final Regulations...1977).

In Ohio, it is apparent that progress is being made to meet the letter and the spirit of the requirements identified in Title IX and Title II, respectively, in the 1972 and 1976 Education Amendments. Programs once considered the domain of male students are experiencing increasing enrollments of females, and programs once totally female now have males in their ranks. This fact is made evident by data recently released by the Ohio Department of Education, Division of Vocational Education, as indicated in Table I.

A major area of concern in the reduction of sex discrimination, sex bias, and sex stereotyping is at the secondary level. This is due partly to the fact that significant enrollment numbers are found at the secondary level. Further, it is very clear that a tremendous impact is made on the vocational lives of students during their secondary experience. In addition to this concern, much of the original drive in the development of Title IX of the Education Amendments of 1972 and of Title II of the Education Amendments of 1976 came from the recognition that sex discrimination, sex bias, and sex stereotyping were especially serious problems for females. Table II depicts *only the secondary enrollments* with the number and percent of females enrolled at that level in Ohio.

Note at the secondary level that female enrollment in agriculture is the lowest of all the service areas and that it is significantly lower on a percentage basis than the total program enrollment for agriculture. The trade and industrial program area also shows a relatively low enrollment of females. Further, within other service areas some specific programs have also experienced low enrollment of females.

This research proposal was made based upon these types of data and the concerns they present for females interested in pursuing programs of study which have traditionally been for males.

TABLE I **Female Enrollment in Vocational Education Programs by Service Area in Ohio**

Service Area	Total Enrollment	Female Enrollment	% Female
Trade and industrial	132,493	17,166	13
Agriculture	42,174	8,960	21
Distributive	49,329	25,940	53
Home economics	159,004	138,003	82
Business and office	58,165	52,229	90
TOTAL	441,165	242,298	55

Note that agriculture, which was once essentially 100 percent males now has 21 percent females in its program.

(Sex Equity Update, March 1979)

TABLE II **Female Enrollment in Secondary Vocational Education Programs in Ohio**

Service Area	Total Enrollment	Female Enrollment	% Female
Trade and industrial	65,201	12,800	20
Agriculture	23,974	3,645	15
Distributive	12,218	6,903	57
Home economics	122,496	98,520	80
Business and office	29,717	27,724	93
TOTAL	253,606	149,592	59

(Sex Equity Update, March 1979)

Purpose and Objectives

The purpose of this research was to develop a model for recruitment, retention, and placement of female students in secondary vocational education programs which have traditionally been for males.

The following objectives were identified for the project:

1. To identify ten specific secondary vocational education programs which have successfully recruited, retained, and placed female students in non-traditional programs of instruction.
2. To identify the factors which have influenced secondary vocational education programs to successfully recruit, retain, and place female students in traditionally male roles.
3. To develop strategies for secondary vocational education programs for recruiting, retaining, and placing female students in non-traditional programs of instruction.
4. To develop an inservice approach for secondary vocational education programs which will encourage the use of strategies which aid in the successful recruitment, retention, and placement of female students in non-traditional roles.

CHAPTER II

REVIEW OF RELATED LITERATURE

Legislative Background

This study is not the first to address the issue of sex equity in vocational education. Sex equity projects have been carried out in many states, some with measurable success. Yet the problems of sex-stereotyping and differential selection of programs by students on the basis of gender persists on a national level (Schenck, 1977). This study attempts to draw on the experience of past projects and to examine selected successful schools in Ohio to develop a practical model for teachers and administrators to use in eliminating sex-bias.

For the past several years vocational education has been confronted with providing sex equity in policies and programs in compliance with Title IX of the Education Amendments of 1972 and Title II of the Education Amendments of 1976. The scope of Title IX and Title II extends from preschool through graduate school, and protects students and staff from sex discrimination. With regard to the numbers of individuals protected, Title IX and Title II are the most far-reaching civil rights laws that have ever been enacted in the U.S. (Verheyden-Hilliard, 1977). The legislative mandates have resulted in an important challenge and tremendous opportunity for vocational education to prepare young people for societal changes affecting their personal, family, and work roles. As sex-stereotyping diminishes, an increasing number of students will realize the importance of the technical and practical living skills taught in various vocational programs. The classroom implementation of Title IX and Title II involves a united effort by administrators, counselors, and teachers. In meeting the legislative requirements, vocational educators have an opportunity to help young people of both sexes expand their role expectations and be better prepared for the labor market.

Psychological Barriers to Sex Equity

The negative effects of sex role stereotyping cannot be ignored. Neither can there be a quick, shallow solution to such a difficult problem. Sex stereotyping has been a subtly accepted fact for years in American society. Rosenkrantz and others (1968) found sex-associated characteristics assigned to males tend to be the same ones mental health professionals assign to mentally healthy adults. These findings imply a normal female could not be a mentally healthy adult. Women are expected to exhibit characteristics not highly valued in our culture and much pressure is put on men to conform to the "masculine" image (Peterson, M. and Vetter, L., 1977).

Occupational Patterns of Women

The female emphasis in sex equity programs can be attributed to several factors. Women have been traditionally concentrated in low skill and low paying jobs (Briggs, 1978). In 1970, 30 percent of working males were in high paying jobs compared to 2 percent of females. More than 40 percent of all females in the work force are in 10 occupations, ranging from secretary to cashier to elementary school teacher. The average woman worker earns less than 60 percent of what the average man earns (*Fact Sheet*, 1974) and the wage gap between men and women is increasing. Female college graduates in 1974 earned a mean salary of $9,777 compared to a mean salary of $16,576 for male college graduates (Rieder, 1977). Despite some gains in the number of women employed, job segregation patterns that confine women to the traditional female occupations persist (Rieder, 1977). Tradition, rather than job content, has led to labeling certain jobs as female and others as male (*Fact Sheet*, 1974).

Enrollment Patterns in Vocational Education

Past vocational patterns indicate sex discrimination, sex bias, and sex stereotyping are not hypothetical problems in vocational education. Prior to 1972, female enrollment in secondary vocational agriculture and trade and industry classes was minimal. Less than 8 percent of the enrollment in vocational home economics classes consisted of males. The underlying assumption that men and women should be different encouraged these enrollment trends to persist until the early 1970's. Title IX was passed in 1972 after congressional hearings documented the pervasiveness and long-range consequences of sex discrimination in educational practice, policy, and attitude (Verheyden-Hilliard, p. 2).

As a major connection between school and the world of work, vocational educators can act as change agents for eliminating occupational stereotypes. Subpart C 86.23 of the Rules and Regulations for Title IX states "vocational education shall not discriminate on the basis of sex in the recruitment and admission of students" (Verheyden-Hilliard, p. 22). Evidence of sex-bias in vocational education can be found in statistics which indicate that women make up only 9.2 percent of the enrollment in agriculture (which includes horticulture) and 12.6 percent of the

enrollment in trade and industrial programs (which includes cosmetology) (Schenck, 1977). More recently a study conducted by the PEER Group of the National Organization for Women showed that in non-traditional programs males still maintain a stronghold with female enrollment at 11 percent for agriculture, technical areas, and trade and industrial programs (PEER, 1978).

Factors influencing the disproportionate enrollment have been explored in several studies. Kane et al. (1978) found that the mother is the most influential person in a woman's career decision. As might be expected, research has also shown that "maternal employment influences daughters toward less stereotyped sex role attitudes" (Katz et al., 1977 as cited by Vetter et al., 1978, p. 43). The parental influence is a major part of the socialization that a child undergoes. Other institutions such as mass media and schools also serve to instill attitudes regarding sex-appropriate behavior (Katz et al., as cited by Vetter, 1978, p. 41). Schenck (1977) states that "...by the fourth grade, girls' perceptions of occupations open to them are limited to four: teacher, nurse, secretary, or mother." It is unfortunate for both sexes that such limited opportunities are perceived by females. With nine out of ten women working during their lifetime, they are competing for a narrower range of occupations which leads to higher competition and consequently lower pay (Schenck, 1977).

Though a woman's perception of her opportunities may broaden as she grows older, at high-school age she is attempting to gain some sense of identity, especially in the context of her womanhood (Kane, et al., 1978). Peer pressure and the natural self-doubt which accompany adolescence only make it more difficult for the young woman to decide in favor of a non-traditional occupation. This tremendous social pressure is further intensified by schools which do nothing to encourage female students to enroll in traditionally male courses. The Advisory Committee on the Rights and Responsibilities of Women to the Secretary of Health, Education, and Welfare, 1975 stated that "...the schools have been - and continue to be - among the major social forces perpetuating the stereotyped images of women, their vocational opportunites, aptitudes and interests..." (Weitz, 1977). This failure of the schools to break down barriers of sex-bias has been the impetus for this study and others like it. Though it may be difficult to change parental attitudes, steps can be taken by educators and administrators to eliminate unnecessary stereotypes in vocational programs so that students, both male and female, may select an occupation based on their aptitude and interest and not their gender.

Factors Related to Career Choice

In analyzing which factors are most important in motivating students to choose a particular vocation, Kane et al. (1978) found that interest is by far more important to adolescents than is either ability or earnings. Interest in the subject matter alone is the single most powerful motivating factor in the selection of a vocational program. Ability ranks second and earnings third in importance. With this knowledge, strategies for eliminating sex-bias can be designed so as to emphasize capturing the interest of female students, rather than focusing on the improved earnings which are characteristic of the male-intensive occupations.

In that same study, Kane et al. (1978) analyzed which counseling techniques were most useful in recruiting non-traditional female students. They determined that career education including job-site visitation is the most useful and influential tool as opposed to individual and group counseling, and vocational testing is least useful. Smith (1975) found in the New Pioneers Project in North Carolina that when vocational counselors informed girls about non-traditional areas, the vocational program was better explained to boys and actually led to a better quality student who had made an informed occupational choice.

Oftentimes a counselor or an instructor has access to brochures, pamphlets, and instructional materials which are used to familiarize potential students with a vocational program. These materials, if they contain sex-stereotyped images of students or use generic pronouns, may influence the career choice of a student (Plost et al., 1974 as cited by Vetter et al., 1978). Weitz (1977) examined recruitment brochures and found, "...The messages and images in program brochures conformed to the traditional classification of occupations along sex-stereotyped lines..." This is another area within the educational system in which there is ample room for improvement and in which corrections could easily be made by an alert and cognizant planner. Schenck (1977) recommends the *Dictionary of Occupational Titles* (U.S. Dept. of Labor, 1975) as a resource to use in neutralizing instructional materials. Posters and pamphlets describing traditionally male or female vocational programs should now include pictures of non-traditional students and an unbiased description of the program.

Related Sex Equity Projects and Studies

With a clearer understanding of the factors contributing to the disproportionate male/female enrollment in non-traditional vocational programs, projects have been conducted to overcome these barriers to sex equity. Various methods or strategies have been investigated,

utilized, and evaluated in these projects. A review of their successes and shortcomings will provide insight and aid in the development of this study. No single program can be instituted to eliminate sex discrimination from vocational education. However, many states have made commendable efforts to reduce sex bias in their vocational programs.

The *New Pioneers Project*, initiated in 1974, was a model designed to eliminate sex bias in vocational education in North Carolina public schools. The model involved both boys and girls in non-traditional programs. Extensive plans for state and local participation in the sex equity issue were included. Three main themes characterized the project: lifetime career planning for everyone, vocational options for all students, and the special needs of disadvantaged youth. Forty-five teachers were trained at a state conference to be resource persons for local sex equity projects. The coordinators of the *New Pioneers Project* made a distinction between sex discrimination and sex bias. Sex discrimination involves overt actions that are against the law and cases are usually rare. Sex bias involves underlying assumptions and/or actions that favor one sex over the other. Programs designed to eliminate sex discrimination redress wrongs and have a negative emphasis. "Whereas, programs eliminating sex bias create new avenues for happiness by using a positive approach" (Smith, 1976). Twenty months after the onset of the project, enrollment figures showed a 20 percent increase of female students in vocational agriculture classes and a 10 percent increase of males in vocational home economics programs. During the project, Smith discovered (1974) that informing students about sex bias was critical and students more often than teachers, needed help in overcoming sex stereotyping attitudes.

In a project by Lewis (1976) at Penn State University, ten "pacesetter" schools throughout the United States that attracted women into non-traditional programs were identified and visited by researchers. A minimum of five females in a non-traditional class was the criterion used to select the ten schools. The purpose of the project was to identify ways to increase the occupational opportunities for women and identify the steps that will encourage females to enter programs traditionally for males. Lewis assumed that sex role socialization in the family and the distribution of the sexes in the labor market will be the major influences shaping the careers of women in the future. Lewis further concluded the schools can stimulate the changes in these two areas.

Cracking the Glass Slipper is a guide for educators to use in ending sex bias in schools. Developed by PEER, the guide explains Title IX and suggests strategies for constructive change in the area of sex equity.

One program found to be effective in Texas was *Project EVE, Equal Vocational Education*. This project was longitudinal in that females were recruited into non-traditional programs, their progress was followed throughout the year and evaluations were made at the end of the year. To recruit students, project staff gave a presentation including the slide/tape program entitled "All About EVE." They also distributed a brochure describing the various programs, and tours were given of the vocational classrooms. Additional information was provided when requested and interviews were conducted with those females who showed an interest in male-intensive areas. Females who selected non-traditional programs were observed in the classroom by project staff twice a week, for the first month and once a week in subsequent months. These observations allowed staff to develop a working relationship with the vocational instructors and kept them up to date on classroom activities. Meetings between project staff and female students were held once a week to discuss problems and/or good experiences and to encourage openness and familiarity. Potential problems were also avoided by frequent meetings between staff and individual teachers and administrators. Other activities undertaken by the *Project EVE* staff included a career fair, presentations to community groups, interviews with local industry representatives, and various publicity efforts such as bulletin boards, newspaper articles, and television and radio presentations. The success of this program is evidenced by the number of women who enrolled in non-traditional programs the year after the EVE project. While six girls participated in the project, the following year thirteen girls had signed up for traditionally male-intensive programs. Administrators gave the EVE project credit for this increased enrollment (Lerner et al., 1976).

Maher (1976) reviewed 24 exemplary projects attempting to eliminate sex-bias in vocational education programs. These projects were divided into categories based on their major purpose: (1) to increase career awareness, (2) to recruit women into non-traditional vocational training, (3) to increase commitment and concern of education personnel through conferences, or (4) to develop materials. A relevant project examined in this study was initiated by the District of Columbia Public Schools called the *Career Development Program*. Career advisors were hired to present orientation programs as early as seventh and eighth grade to facilitate career exploration and eradicate male/female job

distinctions. Once the students reached high school those interested could either opt for a Career Development Center or participate in the *Interdisciplinary Cooperative Education Program*. The latter was a work-study arrangement in which students were given skills training through local employers. Efforts were made to encourage women to choose non-traditional occupations. The Career Development Center used the concept of "cluster centers" which include areas traditionally popular with males or females. The participation, however, was co-ed to ensure introduction to a wide range of career options. This project could easily be duplicated in other vocational education systems with the help of SEGO (Sex Equity in Guidance Opportunities) trainers who are available in every state.

The Women in New Careers Project (WINC) attempted to identify attitudinal barriers toward women in non-traditional jobs, to assist a pilot group of women to enroll in non-traditional training, and to increase awareness of women's aptitudes. The program was implemented through CETA (Comprehensive Employment Training Act) Centers in five major cities. Intensive services were provided for those women in the pilot program both during and after training. A career development package was designed and tested through the program and served to broaden job opportunities in previously all-male occupations. Though these women were, as a group, older than students in a secondary vocational education program, important information was gained about attitudes which influenced their occupational choice (Maher, 1976) MacManus and VanHightower (1977) examined the vocational education portions of CETA on occupational segregation by sex and advocated that reduction of sex stereotyping will be linked to political change and the key is getting more women in administrative positions.

Farmer (1978) describes various counseling services implemented since Title IX designed to carry out the spirit of that law. The project *Born Free* was sponsored by the Women's Educational Equity Program and the Department of Health, Education, and Welfare and attempts to change the "career socialization" of both sexes (Hansen, 1978, as cited by Farmer, 1978). The project has enlisted the expertise of psychologists, educators, and parents in elementary through post-secondary institutions. Materials such as pamphlets and slide-tape presentations were developed for use in training parents, students, and educators. The basic assumptions underlying the project included: (1) Both men and women must be trained to redefine sex roles since changes in occupational choice by men and women are integrally related, and (2) positive and negative sanctioning in career exploration occurs at every state of the educational continuum. The approach taken in this case was broad and attempted to address the entire issue of sex-role stereotyping.

The question of responsibility for implementation of projects arises whenever such a study is undertaken. Will it be through the efforts of the faculty, the administrators, the parents, or perhaps an outside resource that a particular project is instituted in a school? The direction of a program may be broad enough to encompass all these factions or it may address itself to one in particular. Such is the case with a project developed in North Carolina by *System Sciences Incorporated* (Rice et al., 1977). A manual for administrators was assembled providing strategies to eliminate sex-stereotyping and sex-bias. In order to determine what the specific needs of administrators were, surveys were taken of programs and strategies already in use, administrators were interviewed to determine issues and concerns and experimental instructional materials were field-tested to evaluate effectiveness. Findings from these efforts were used to develop the handbook. Services covered by the manual include counseling programs, curricular programs, career planning and awareness programs, workshops, conferences, materials revision, self-help information and research. The project was extensive and very practical in its orientation. Exercises were simple in format, easy to use, and adaptable to many situations. For example, the unit on stereotyping included a questionnaire type evaluation for measuring and identifying possible sex-bias in hiring of staff, curricular and instructional materials (broken down by subject matter), guidance and counseling methods, sports, physical education and extra-curricular activities, and the distribution of students among the various program areas. Other units covered legal aspects of sex-discrimination, State Education Agency assistance available, sexist language, and statistics on women workers. The manual was developed using data primarily from North Carolina but it has relevance to vocational education nationwide.

Griffin and Kelly (1978) concluded that sex equity workshops were effective in bringing about a significant increase in the degree of awareness of sex bias and sex stereotyping in vocational education. Beach (1977) had a more critical view of vocational educators, claiming the majority of educators remained unaware of problems relating to sex bias and little has been done to accomplish change. The Beach study identified behaviors that inhibited or eliminated sex bias at all levels of

vocational education. Conclusions of the study indicated behaviors of vocational administrators, counselors, and instructors which reduce sex bias occurred in organizational efforts only; the educator did not act on their own initiative to eliminate sex bias behavior.

Summary

Continued research is necessary if the successes of the various sex equity programs are to be realized. Compliance with the regulations of Title IX and Title II by vocational education is being evaluated by the federal General Accounting Office (GAO) for the 1982 vocational education legislative recommendations. Thousands of federal and state dollars have been spent on programs aimed at reducing or eliminating sex bias in vocational education programs. The effectiveness of such programs will continue to be carefully examined during the next two years.

Although significant changes have occurred in vocational education in the area of sex equity, the continued emphasis for occupational opportunities for all students is critical. Numerous vocational programs are still dominated by one sex. Rieder (1977) believes the most important and difficult single barrier in eliminating sex stereotyping is attitudinal. There is no evidence that boys and girls have different interests, abilities, and aspirations at birth; society teaches children early in life the stereotyped roles they will fulfill as adults (Vetter et al., 1977). As a major factor in training young people for the world of work, vocational education has a tremendous opportunity to provide a more balanced picture of career options as they relate to individual interests and abilities. Vocational education must change the socialization patterns that limit the occupational choices of males and females. By emphasizing humanistic characteristics, rather than traditional sex-stereotyped ones, career decisions can be based on individual interests, abilities and aspirations.

CHAPTER III

METHODOLOGY

Research Design

The study was designed to be descriptive in nature. Project staff gathered information through interviews which provided anecdotal data.

Major steps in the research effort were:

1. Identification of project staff
2. Organization of an advisory council
3. Review of related research
4. Selection of ten schools to receive on-site visits
5. Development of interview schedule
6. Visitation of schools by project staff
7. Preparation of technical report
8. Development of in-service model

Population and Sample

Project staff consulted with the advisory committee in order to develop the following guidelines for school selection. An effort was made to include:

1. a range in the number of females currently enrolled in non-traditional programs
2. rural, urban, and suburban settings
3. joint vocational schools and comprehensive high schools
4. programs with female completers placed in non-traditional occupations
5. a fairly equal division between vocational agriculture and trade and industrial programs
6. a geographical distribution throughout Ohio

Project staff obtained enrollment figures by sex for vocational agriculture and trade and industrial programs from the State Department of Education, Division of Vocational Education. Past enrollment statistics were compared with those of the 1979-80 school year in order to determine enrollment trends. Based on these findings 25 percent female enrollment was established as a minimum (standard) for preliminary vocational agriculture program selection. A lower standard of 5 percent female enrollment was set for trade and industrial programs.

Based upon enrollment data the project staff composed a tentative list of four schools to be considered for on-site visitation. Forty production agriculture programs and twenty trade and industrial programs, divided by districts, were submitted to state supervisory staff in their respective service areas. A letter was sent to assistant directors requesting their cooperation in school selections. State staff familiarity with individual programs provided a qualitative evaluation of identified schools. They were asked to review the programs in terms of placement record, retention rate, and quality of classroom instruction.

Utilizing both qualitative and quantitative data as well as the criteria established in conjunction with the advisory council, project staff selected five trade and industrial programs and five vocational agriculture programs for on-site visitations. Due to the nature of the study, schools were not randomly selected.

Selected schools were contacted to request their cooperation in on-site visitations. School personnel were asked to arrange meetings with target group members and to provide a tour of the school facilities.

Specific target groups to be interviewed during on-site visits were identified in consultation with the advisory council. Target groups included students, teachers, parents, employers, administrators, and counselors. In selecting target groups, an attempt was made to involve all persons integral in the recruitment, retention, and placement of female students in traditionally male vocational programs.

Instrumentation

In the development of interview schedules, extensive input was provided by advisory committee members. Separate surveys were written for each of the target groups including students, teachers, parents, employers, administrators, and counselors. Advisory committee members contributed their expertise as professional representatives of administration, supervision, instruction, and sex equity research and coordination. A skeletal list of questions was developed by project staff to be reviewed and supplemented by the advisory committee. There were five core questions directed to all target groups interviewed. The interview schedules and the list of core questions are in Appendix A.

Data Collection

Five trade and industrial programs and five vocational agriculture programs were visited from February 7, 1980 to May 2, 1980. Six of the vocational programs received a two-day in-depth site visit. Upon completion of in-depth site visits a general view of the results was made. Based upon the results, four additional one-day site visits were conducted. These visits gave major emphasis to the factors that appeared most frequently in the in-depth site visits. Interviews were conducted on a one-to-one basis between project staff and members of target groups. Interview sessions usually required approximately thirty minutes to complete.

CHAPTER IV

FINDINGS

Findings are best summarized according to the target groups. Table I shows the number of males and females within each target group. Further, a list of general observations and quotations of persons interviewed is provided for the respective groups.

TABLE I **Scope of the Study**

Target Groups	Male n = 85	Female n = 89
Students	17	60
Parents	9	17
Administrators	18	1
Counselors	11	7
Employers	9	1
Teachers	21	3

Students

Students were the largest group interviewed. An effort was made to interview students enrolled in both traditionally male and traditionally female vocational programs.

1. Most males and females felt that no preferential treatment was being given to either sex.
2. Females enrolled in non-traditional programs could usually identify one supportive person (relative, friend, counselor) who had encouraged them to enter.
3. Most females had been exposed to or had previous experience in the field selected.
4. Females generally perceived that their vocational program instructors were very supportive.
5. In vocational agriculture programs males and females generally felt that female students were well accepted by the instructor and in the community.
6. Several female students indicated that they would be accepted by employers if they were qualified and could "prove themselves."
7. Students had a limited understanding of the issue of sex equity. Some general comments were as follows:

   "Women can do anything guys can do...if they can do the job, they should be able to..."

8. All students did not identify the same person as influential in their career choice. Various groups cited as influences were other girls in the program, parents, guidance counselors, other relatives, older brothers and sisters, teachers, while several students said that the decision to enroll was made independently. A typical response was given by a female enrolled in business machine repair:

   "...my mom encouraged me; she wanted me to have something to do besides restaurant work..."

Employers

Project staff interviewed employers both in school and at their places of business.

1. Generally, employers were reserved in their enthusiasm for the issue of sex equity; most felt that there were well-defined male and female roles.
2. Most employers would agree to hiring females but would limit the female role to one which would not require physical strength.
3. When asked about hiring a female for a non-traditional occupation, most employers responded favorably. Some reservations were expressed however, as in the following quotes:

   "...less acceptance by customers is a definite problem...I think there could be a great resistance in the trade..."

   Another employer felt:

   "...There are jobs for men and jobs for women..."

4. Most employers interviewed were involved in small businesses and not affected by federal mandates concerning sex equity.

Parents

Parents of non-traditional female students were interviewed by project staff. Findings were as follows:

1. Almost all parents were very supportive of their child's program choice though some felt opportunities after graduation might be limited due to sex bias. Other parents thought that "reverse discrimination" would assist their daughters in obtaining employment.

2. There was a mixed reaction from parents in their own perception of their influence on their child's choice of a program.

3. Parents generally believed that more could be done in counseling students about careers as indicated in the following quotes:

   "...Counselors should talk about careers at an early age..."

   "...It is too late by the time students are in high school to make career decisions..."

   "...Students should have the opportunity to talk with persons actually doing the job..."

4. Parents' understanding of sex equity is characterized by the following quotes:

   "...equal work for equal pay..."

   "...students should be allowed to pursue anything they are interested in..."

   Many of these comments were prefaced by the remark:

   "...I'm not a 'women's libber' but..."

Counselors

Overall, the counselors we spoke to were well-informed, had attended in-service meetings, and were open to the issue of sex equity.

1. There was a very mixed reaction in terms of how students were counseled about careers. Some counselors overtly encouraged females to enter non-traditional programs and mentioned pay differentials. Others did not discuss the issue of sex equity with students.

2. When asked what sex equity means, the following responses were given:

   "...affirmative action to take deliberate steps to reduce sex bias..."

   "...people being judged on their capabilities..."

   "...persons being treated according to their abilities and interests..."

3. Counselors identified the following factors as contributing to the success of their school in the area of sex equity:

   "...middle school industrial arts and home economics programs involve both males and females."

   "...co-educational sports have encouraged sex equity..."

   "...this school has done a lot of work in the area of racial equity and it has carried over into sex equity..."

   "...reputation of the program has led to an interest on the part of females..."

   "...posters depicting males and females in non-traditional programs are displayed here and at feeder schools..."

4. Several schools had orientation materials which had been reviewed for sex bias. However, most schools had not acquired materials which speak directly to changing roles.

5. Some activities initiated by guidance personnel included:

   - the development of brochures through grants received from the State Department of Education.

   - A summer orientation program in which males participated in traditionally female programs and females participated in traditionally male trade areas.

   - The involvement of non-traditional students in recruitment programs at the junior high level, career fairs, and public relations activities.

Administrators

Administrators interviewed included principals, assistant principals, superintendents, supervisors, and directors.

1. The general reaction to the issue of sex equity is evidenced by the following quotes:

   "I believe in equal access to programs for both sexes..."

"...the role of the school is limited due to family influence..."

"...not enough emphasis is placed on males in non-traditional areas..."

"...very important issue in education..."

2. Most administrators were aware of the sex equity issue, as expressed below:

   "Title IX says that you do not discriminate by sex..."

   "...means there is equal opportunity for women..."

   "...my interpretation is equal pay regardless of sex..."

   "Sex equity legislation would be better accepted if it didn't change so often."

3. Many administrators saw their role as providing direction for the staff in the area of sex equity:

   "...passing mandates along to placement and guidance..."

   "My job is to smooth things over to see that girls have adequate facilities..."

   "...to ensure that my staff is open-minded..."

   "...to stay ahead of the problems but keep practical and a sense of reality..."

   "...My role is to provide creative ideas to attract non-traditional students..."

4. Administrators felt there was adequate direction from the state but not enough information on implementation of sex equity policy. Many administrators felt threatened by compliance regulations. Several administrators mentioned that they resented the female emphasis.

5. When asked about the acceptance of female graduates by employers, administrators generally perceived that there would be no problem:

   "...affirmative action will work in favor of females..."

   "...larger firms are no problem because they are under the federal mandates but smaller firms may resist..."

6. Very few administrators had been exposed to in-service work in the area of sex equity.

Teachers

Teacher attitude was a critical factor in the success of female students in non-traditional programs. Teachers interviewed were from highly male-intensive vocational areas, but were generally enthusiastic about the enrollment of females.

1. Several teachers remarked that the entrance of females into the program had a positive influence on other class members, specifically, competition was enhanced and all students benefited.

2. Most teachers interviewed had received little or no preparation (pre-service or in-service) for female students.

3. When asked about the meaning of sex equity, teachers responded as follows:

   "...it means equal access to programs..."

   "...equal opportunity and equal treatment of students..."

4. Teachers often mentioned that the first female student, if genuinely interested in the program, facilitated the acceptance of females by class members and the instructor.

5. Teachers set the same standards for females and males. For example, vocational agriculture students were all expected to acquire welding skills.

6. Vocational teachers identified the following factors as contributing to the success of their program in the area of sex equity:

   "...8th grade orientation slide presentations include both males and females in non-traditional programs..."

   "...non-traditional students go to the junior high schools and explain the program..."

   "...trade shows have been developed that involved both male and female students in vocational skill demonstrations..."

   "...identifying and visiting potential female students prior to their enrollment in high school..."

General Observations

The following were some practical suggestions for sex equity implementation provided by school personnel:

- Role models seemed to be a significant factor in the success of students.
- Audio-visual, instructional, and orientation materials should include representation of females.
- Females were more successful when two or more were enrolled.
- Teacher attitude seemed critical to class acceptance of females.
- Prior experience in the field (4-H for agriculture programs or industry experience for T & I) was a contributing factor to female enrollment.
- Several schools provided support sessions, such as luncheons or workshops, for students in non-traditional programs.
- Most of the students in non-traditional programs had parental support and encouragement.
- In general, students in non-traditional programs were more independent and had specific career goals.
- Teachers often remarked that difficulties were encountered in the acceptance of non-traditional students for the first few weeks after which time problems were resolved.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, NEED FOR FURTHER STUDY

Summary

The purpose of this research was to develop a model for recruitment, retention, and placement of female students in secondary vocational education programs which have traditionally been for males.

The project staff gathered information through interviews which provided anecdotal data. Based upon enrollment data and recommendations from the advisory committee and state supervisory staff, project staff selected five trade and industrial and five vocational agriculture programs for on-site visitation. Specific target groups to be interviewed were identified and included administrators, teachers, students, employers, parents, and guidance counselors. A set of core questions were developed to be directed to all target groups interviewed.

Conclusions

The following conclusions were based on the response from the interviews:

1. When two or more non-traditional students are enrolled in a vocational program, the rate of retention is improved.
2. Teacher attitude is critical to class acceptance of students in non-traditional programs.
3. Prior experience in the field is a contributing factor to female enrollment.
4. Role models are a significant factor in the success of female students in non-traditional programs.
5. Audio-visual, instructional, and orientation materials that include representations of females are useful in the recruitment, retention, and placement of female students in non-traditional programs.
6. Support sessions give visibility to non-traditional students.

Implications

Several important implications are evident from the findings of this research.

In-service for school personnel is needed to create an awareness and provide direction in implementing sex equity policy. The needs of students in this area might also be served by counseling and instruction. Curriculum materials and recruitment brochures depicting both males and females in all vocational programs should be developed.

Teachers or guidance counselors should identify and actively recruit potential non-traditional students. In addition, schools could establish specific goals in the area of sex equity. This plan of action could include target dates for implementation and identified objectives.

Need for Further Study

As a result of information obtained by this study, the following recommendations are made for additional research:

1. Research concerning male students in traditionally female program areas should be conducted to complement the current study.
2. Similar research conducted in other states would provide additional verification of the findings.
3. Post-secondary vocational programs could be investigated to identify various methods for recruiting, retaining, and placing non-traditional students.
4. In the interest of comparison, schools having no students enrolled in non-traditional programs could be visited.
5. Research to determine appropriate in-service methods for sex equity implementation could be conducted.

APPENDIX A

INTERVIEW SCHEDULE

TEACHERS

1. Demographic information:
   - background
   - number of males/females in class
   - changes in students
2. What does sex equity mean to you? Do you think this is a critical issue in education?
3. What have you done to encourage students to enter your program? Females?
4. How were you prepared, if at all, for female students?
5. How would you benefit from in-service meetings on sex equity?
6. What would you like to have for in-service?
7. What improvements have you seen with females in your program?
8. Who has major influence on the students selecting a particular program?
9. Who deserves the credit for the success of your school in this area?
10. What would you do differently to encourage all students to consider your program?

STUDENTS

1. Family and background
2. Future plans
3. What does equal treatment of females and males mean to you?
4. Why did you decide to enroll in this program?
5. Why do you think other students enroll?
6. Who was the major influence in your decision?
7. Who gave you support or encouragement — at school? — at home?
8. What support are you receiving now?
9. Are students treated the same for the same behavior?
10. What are some challenges you anticipate in this field?

COUNSELORS

1. Experience in education
2. Organization of counseling system — how are students assigned?
3. What does sex equity mean to you?
4. What factors have contributed to the success of your school in the area of sex equity?

5. What would you do differently to encourage students to consider all vocational programs?
6. Who has the most influence over a student in his/her vocational program choice?
7. Have testing and counseling materials been reviewed for sex-bias?
   - Who was responsible?
   - What was done?
   - When was it done?
8. What materials do you have which speak directly to changing roles?
9. What is the school policy in dealing with discriminatory employers?
10. Who keeps records of job placement by sex?

    What do these records show?
11. If workshops have been held to sensitize counselors/teachers to sex equity, have they been effective?
12. What have you done to ensure that all students are aware of opportunities?
13. What have you done on career days to encourage females to enroll (in Ag. or T & I)?
14. How do you counsel students regarding areas of discrimination (pay, promotion, responsibility)?
15. Are orientation slides/brochures available for review?

EMPLOYERS

1. Background and experience
2. Number of employees, their responsibilities, opportunities for advancement?
3. What do you look for in an employee?
4. Who do you think has the most influence on a student's choice of a vocational program?
5. Can you think of any occupation for which women could not be trained?
6. If you had an opening for a mechanic, would you employ a woman?

PARENTS

1. Demographic information

   Current occupation

   Would you choose another career?

   How many in your family?
2. What does equal treatment of female students mean to you? Do you think this is a critical issue?
3. What part did you have in your daughter's decision to enroll in the program?
4. How should students be counseled about careers?
5. Who has the major influence on a student selecting a particular program?
6. What challenges will your daughter face in finding employment?

ADMINISTRATORS

1. Demographic information
   - Background in education
   - General school information

     number of students
     community description
     handbook for students
2. What does sex equity mean to you? Do you think this is a critical issue in education?
3. Who deserves the credit for the success of your school in this area?
4. What factors have contributed to the success of your school in the area?
5. Who is responsible for sex equity? What is their title? How was this person chosen?
6. What in-service training has the staff received in the area of sex equity within the past year?
7. What is your understanding of Title IX and II regulations?
8. What do you feel is the role of the administrator regarding sex equity policies at the local level?
9. Who has the major influence on the students selecting a particular program?
10. Where would you seek assistance concerning sex equity materials/regulations?
11. Do you think administrators receive adequate direction from the state department regarding current sex equity legislation and the implications at the local level?
12. How well are female students accepted by employers?
13. What would you do differently to encourage students to consider all vocational programs?
14. What are your plans/goals for sex equity implementation?

APPENDIX B

SITE DESCRIPTIONS

SITE A

The city in which this comprehensive cooperative high school is located has a metropolitan population of 242,000. The city is in a major industrial area of the state specializing in electrical machinery, printing and publishing, transportation equipment, and paper industries. Local employment opportunities are plentiful.

The innovative vocational complex was established in 1914 and was the second school in the United States to offer vocational instruction. The school enrolls 2,100 students (65% black) in 14 vocational programs. The unique system begins in the ninth grade with selectively admitted students exploring four vocational areas during nine week intervals. Tenth grade students specialize in one of the 14 vocational programs and attend school full-time. Eleventh and twelfth graders attend school and receive on-the-job training in alternating two-week periods.

Interviewed females in non-traditional program areas included auto mechanics, electronics, machine shop, and sheet metal.

SITE B

This comprehensive high school is located in a small farming community. Industry is limited and provides a minimal tax base for operation of the school system. The school was consolidated ten years ago, but remains a relatively small school. Current enrollment is approximately 600 students, and has been steadily decreasing. The school is one of fourteen feeder schools for the area Joint Vocational School located in a nearby town.

The production agriculture program enrolls 58 students, 11 of which are female. Females have enrolled in production agriculture for the past ten years. Many students, both male and female, plan to attend college after graduation, majoring in agriculture. The majority of students enrolled in vo-ag have a farm background and indicate plans to continue farming in the future. Farms in the area are relatively small (50 - 100 acres) and most are general livestock operations.

SITE C

This comprehensive four-year school was constructed in the late fifties but remains in excellent condition. The school serves as a feeder school to the county Joint Vocational School. Currently the school system enrolls approximately 450 students in grades nine through twelve. The curriculum includes traditional college-preparatory coures, as well as vocational agriculture, industrial arts, home economics, and OWE programs.

This is a small agricultural community with a school district population of approximately 4,000. Farms are predominantly dairy and families are of German descent. Several smaller industries employ local residents. Many people commute to towns and cities to work. The people are geographically isolated from any major metropolitan area. A nearby state park draws many tourists in the summer. Wide community support and a reputation for quality, particularly in the FFA, provides students with a foundation upon which to build. Girls have participated in vocational agriculture since the early seventies. Six girls are currently enrolled out of a total enrollment of 40. All students in the program have a farm background.

SITE D

The fourth on-site visit was conducted at the largest joint vocational school district in the United States. Four vocational schools are located throughout the district, serving a total of 4,600 high school students. Project staff interviewed personnel at one of the four schools which enrolled 1,487 students. This vocational school is situated on the edge of one of the largest metropolitan areas of Ohio. Major industries in the area provide numerous employment opportunities for local residents.

Ten comprehensive high schools send eleventh and twelfth grade students to the vocational school for 5½ hours each day. Students are enrolled in vocational programs in the general areas of agriculture, trade and industry, home economics, business and office education, and occupational work experience.

Female students interviewed were enrolled in automotive mechanics, industrial electronics, masonry, and carpentry.

SITE E

This comprehensive four-year high school is located in a rich agricultural area with large farm operations (400-800 acres), specializing in hog production and horse breeding. The school is situated in a town with a population of 3,000 people.

The FFA organization is well supported by the community. The production agriculture program enrolls 120 students, 20 of which are female. Female students were actively involved in the program as FFA officers, chapter farmers, and with supervised occupational experience programs.

SITE F

This innovative school system had several females enrolled in non-traditional trade and industrial programs. Programs visited included airplane maintenance, welding, auto mechanics, and industrial electronics. While an effort was being made to encourage females to enroll in non-traditional programs, participation was limited to one or two females in each traditionally male program. Staff had received in-service training on sex equity. The school had a diverse student population comprised of twenty-two feeder schools from rural, urban, and suburban settings. Located on the outskirts of a large metropolitan area, job opportunities for graduates are plentiful.

SITE G

The seventh school visited was located in a town with a population of approximately 8,000. The rural area surrounding the school district is predominantly involved in agricultural production. However, residents have access to three larger towns, one of which is a major industrial center of Ohio.

Currently there are 917 students enrolled in grades 9-12 at this comprehensive high school. The vocational agriculture program enrolls approximately 50 students with eight females. Students are highly active in the FFA organization and the program receives wide community support. Upon graduation, most vocational agriculture students pursue a career in farming or attend a post-secondary institution majoring in agriculture.

SITE H

A rural community of 3,000 people was the site for the eighth school visit. Residents were employed by several small industries or commuted to a nearby metropolitan area. Agriculture was not a major industry in this area, with the majority of the persons farming part-time.

The four-year comprehensive high school enrolls 850 students. Approximately 45 students were enrolled in production agriculture classes. Girls had been in the program for the past four years. The twelve female students interviewed were active in all phases of the vocational agriculture program.

SITE I

Fourteen hundred students were enrolled at this large joint vocational school. The school district encompassed five counties and students from rural, urban, and suburban settings attended the school. Employment opportunities for vocational program graduates are excellent as the school district is located in one of the major industrial areas of Ohio.

Staff had received several in-service meetings devoted to sex equity and program brochures had been developed depicting both male and female students in the 31 vocational offerings.

Females interviewed were enrolled in carpentry, auto mechanics, and machine trades. Typically, there was only one to two female students in the traditionally male programs.

SITE J

This joint vocational school has made exemplary efforts to recruit both male and female students into non-traditional programs. Brochures had been developed which showed males and females in all program areas. Further, an orientation program was held during which males visited traditionally female programs while females were introduced to male-intensive program areas.

The school is located in a rural area outside a town with a population of approximately 10,000. There are no major industries in the area, however, several local employers provide job opportunities for students with vocational training. The school enrolls 1,059 students in 28 program areas.

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